

REMARKS

Claims 10-16 are pending. By this Amendment, no claims are cancelled, claim 10 is amended, and no claims are added. Claim 16 was withdrawn previously by the Examiner.

In view of the following comments, Applicants respectfully request favorable consideration and prompt allowance of the claims.

Rejection Under 35 U.S.C. § 103 Over Horsthemke and Gardam

Claims 10-15 are rejected under 35 U.S.C. § 103(a) as being unpatentable over EP 1,205,582 and U.S. Patent No. 6,837,981 to Horsthemke (collectively "Horsthemke") in combination with "The Production of Machinable Cr Deposits" by Gardam ("Gardam"). Applicants respectfully request reconsideration of the rejection based on the following comments.

A *prima facie* case of obviousness of Applicants' claimed invention has not been established, as Horsthemke and Gardam, individually or in combination, do not teach or suggest all of the features included in claim 10. Specifically, the references do not teach or suggest a method of producing a structured hard chrome layer, wherein the "hard chrome layer comprises at least one of a cup-shaped structure, a labyrinth-like structure, or a column-shaped structure."

Further, "[o]bviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so." MPEP 2143 citing In re Kahn, 441 F.3d 977, 986 (Fed. Cir. 2006). While the Supreme Court recently rejected a rigid application of the teaching, suggestion or motivation to combine (TSM) test in an obviousness inquiry, KSR Int'l v. Teleflex, Inc., 127 S.Ct. 1727

(U.S. 2007), the Court did not completely reject use of TSM as a factor in an obviousness analysis. Moreover, the Court acknowledged the importance of identifying a reason prompting a person of ordinary skill in the art to combine the elements in the claimed way. Id. at 1731.

There would be no reason that person of ordinary skill in the art would look to the teachings of Gardam for combination with those of Horsthemke. Specifically, Gardam is directed towards forming soft chromium layers using simple H₂SO₄ electrolytes, whereas Horsthemke is directed towards the formation of hard chromium layers using different electrolytes. The teachings of Gardam (formation of chromium layers with decreased hardness) are thus contrary to the focus of Horsthemke, namely, the formation of chromium layers with increased hardness.

In addition, in KSR, the Court explicitly recognized that prior art can actually teach away from the combination of certain known elements, thus making the combination more likely to be non-obvious. Id. at 1740; see also Tec Air Inc. v. Denso Manufacturing Michigan Inc., 192 F.3d 1353, 1360 (Fed. Cir. 1999) ("There is no suggestion to combine [references] if a reference teaches away from its combination with another source.") "A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant." In re Gurley, 27 F.3d 551, 553 (Fed. Cir. 1994).

In this case, the references do not render Applicants' claimed invention *prima facie* obvious, as there is no suggestion, motivation, or reason prompting a person of ordinary skill in the art to combine the teachings of Gardam with those of Horsthemke. Specifically, Horsthemke teaches away from its combination with Gardam. As recognized by the Examiner, Horsthemke

teaches operation at "at a cathode efficiency of **at least 15%.**" Col. 5, lines 50-58, emphasis added. One skilled in the art, upon reading Horsthemke, would be led in a direction directly divergent from the feature of claim 10 of providing a cathodic current yield of 12 % or less.

As such, a *prima facie* case of obviousness is not met, as the cited references do not teach or suggest all of the features included in independent claim 10 and there is no suggestion, motivation, or reason prompting a person of ordinary skill in the art to combine the teachings of Gardam with those of Horsthemke. With respect to specific features of the claims depending from independent claim 10, these are not commented on further, as they are presently moot given the above analysis, although Applicants do not acquiesce in the Examiner's position. As such, Applicants respectfully request reconsideration of the rejection.

Rejection Under 35 U.S.C. § 103 Over Wilmeth and Gardam

Claims 10-15 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,196,108 to Wilmeth et al. ("Wilmeth") in combination with Gardam. Applicants respectfully request reconsideration of the rejection based on the following comments.

A *prima facie* case of obviousness of Applicants' claimed invention has not been established, as Wilmeth and Gardam, individually or in combination, do not teach or suggest all of the features included in independent claim 10, as amended. Specifically, the references do not teach or suggest a method of producing a structured hard chrome layer, wherein the "hard chrome layer comprises at least one of a cup-shaped structure, a labyrinth-like structure, or a column-shaped structure," as included in claim 10.

Further, there would be no reason that person of ordinary skill in the art would look to the teachings of Gardam for combination with those of Wilmeth. Gardam is directed towards forming soft chromium layers using simple H_2SO_4 electrolytes. On the other hand, like Horsthemke, Wilmeth is directed towards the formation of hardened layers. The teachings of Gardam are thus contrary to those of Wilmeth.

Further, the references do not render Applicants' claimed invention *prima facie* obvious, as there is no suggestion, motivation, or reason prompting a person of ordinary skill in the art to combine the teachings of Gardam with those of Wilmeth. Specifically, as recognized by the Examiner, Wilmeth actually teaches away from its combination with Gardam. Wilmeth teaches a "cathode efficiency of the process is **greater than about 18%**." Col. 6, lines 44-46, emphasis added. Gardam was cited only for its teaching related to cathode current yield. One skilled in the art, upon reading Wilmeth, would be led in a direction directly divergent from the feature of claim 10 of providing a cathodic current yield of 12 % or less.

As such, a *prima facie* case of obviousness is not met, as the cited references do not teach or suggest all of the features included in independent claim 10. Further, there is no suggestion, motivation, or reason prompting a person of ordinary skill in the art to combine the teachings of Gardam with those of Wilmeth. With respect to specific features of the claims depending from independent claim 10, these are not commented on further, as they are presently moot given the above analysis, although Applicants do not acquiesce in the Examiner's position. As such, Applicants respectfully request reconsideration of the rejection.

Rejection Under 35 U.S.C. § 103 Over Horsthemke II and Gardam

Claims 10-12 and 14-15 are rejected under 35 U.S.C. § 103(a) as being unpatentable over DE 44 32 512 to Horsthemke ("Horsthemke II") in combination with Gardam. Applicants respectfully request reconsideration of the rejection based on the following comments.

A *prima facie* case of obviousness of Applicants' claimed invention has not been established, as Horsthemke II and Gardam, individually or in combination, do not teach or suggest all of the features included in independent claim 10, as amended. Specifically, the references do not teach or suggest a method of producing a structured hard chrome layer, wherein the "hard chrome layer comprises at least one of a cup-shaped structure, a labyrinth-like structure, or a column-shaped structure," as included in claim 10.

Further, Gardam teaches away from the use of lower current efficiencies stating, "However the low cathode current efficiency of 6 % and consequent low plating rate of about 0.0006 cm/hr which are obtained with these conditions are impractical." One skilled in the art, upon reading Gardam and Horsthemke II, would be led in a direction directly divergent from the feature of claim 10 of providing a cathodic current yield of 12 % or less.

As such, a *prima facie* case of obviousness is not met, as the cited references do not teach or suggest all of the features included in independent claim 10. Further, there is no suggestion, motivation, or reason prompting a person of ordinary skill in the art to combine the teachings of Gardam with those of Horsthemke II. With respect to specific features of the claims depending from independent claim 10, these are not commented on further, as they are presently moot given the above analysis, although Applicants do not acquiesce in the Examiner's position. As such, Applicants respectfully request reconsideration of the rejection.

Conclusion

In view of the foregoing, it is submitted that this application is in condition for allowance. Favorable consideration and prompt allowance of the application are respectfully requested.

The Examiner is invited to telephone the undersigned if the Examiner believes it would be useful to advance prosecution.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Erik M. Drange", with a long horizontal flourish extending to the right.

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